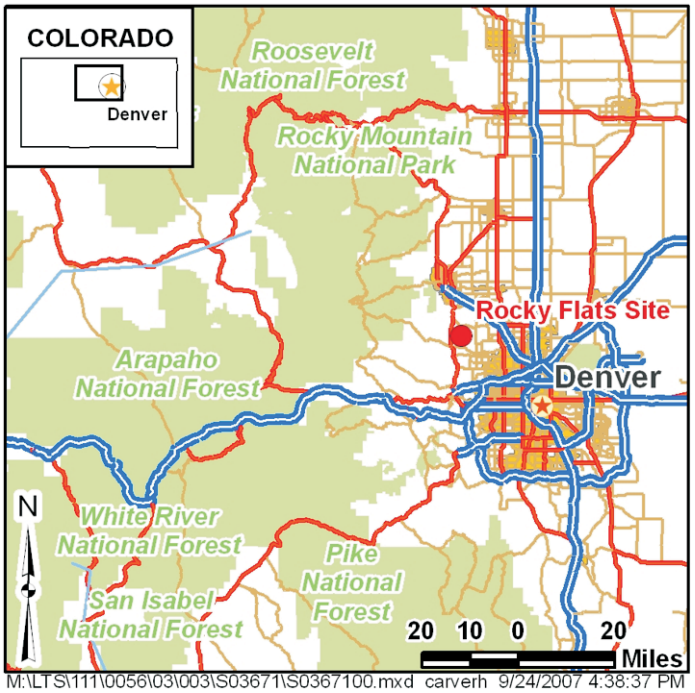
Rocky Flats Site, Colorado

FACT SHEET

This fact sheet provides information about the Rocky Flats Site, near Denver, Colorado. The site is managed by the U.S. Department of Energy Office of Legacy Management.

Site Description and History

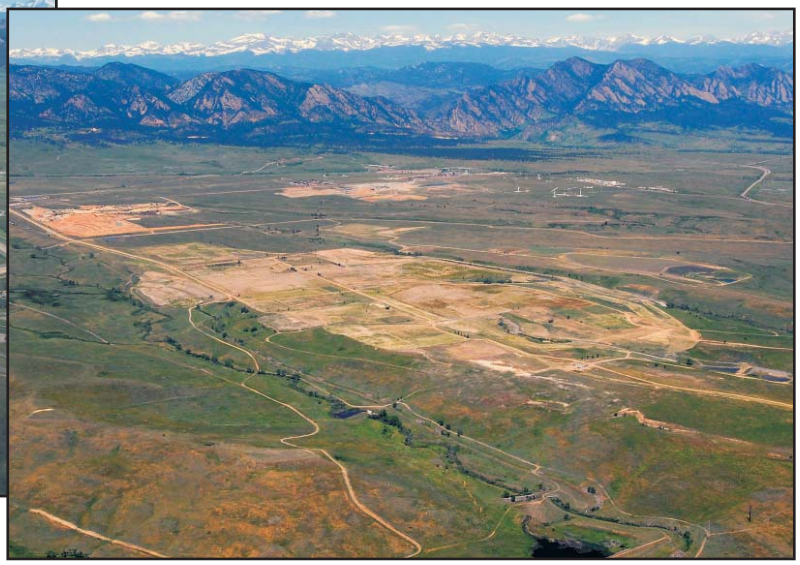
The Rocky Flats Plant was established in 1951 as part of the United States' nationwide nuclear weapons complex to manufacture nuclear weapons components under the jurisdiction and control of the U.S. Department of Energy and its predecessor agencies. The land, located 16 miles northwest of Denver, Colorado, in northern Jefferson County, was acquired beginning in 1951. Additional parcels acquired in 1974 and 1975 increased the size of the site to approximately 6,500 acres, including a small portion of the site that resides in southern Boulder County. The site is situated on a plateau at the eastern edge of the Front Range of the Rocky Mountains, at an elevation of about 6,000 feet. The majority of the land was used as a security buffer around an approximately 400-acre industrial area near the center of the site. After production operations were shut down, about 250 acres of the northwest buffer area was transferred to the DOE Golden Field Office for the National Wind Technology Center scientific wind turbine testing facility for development of alternative energies.



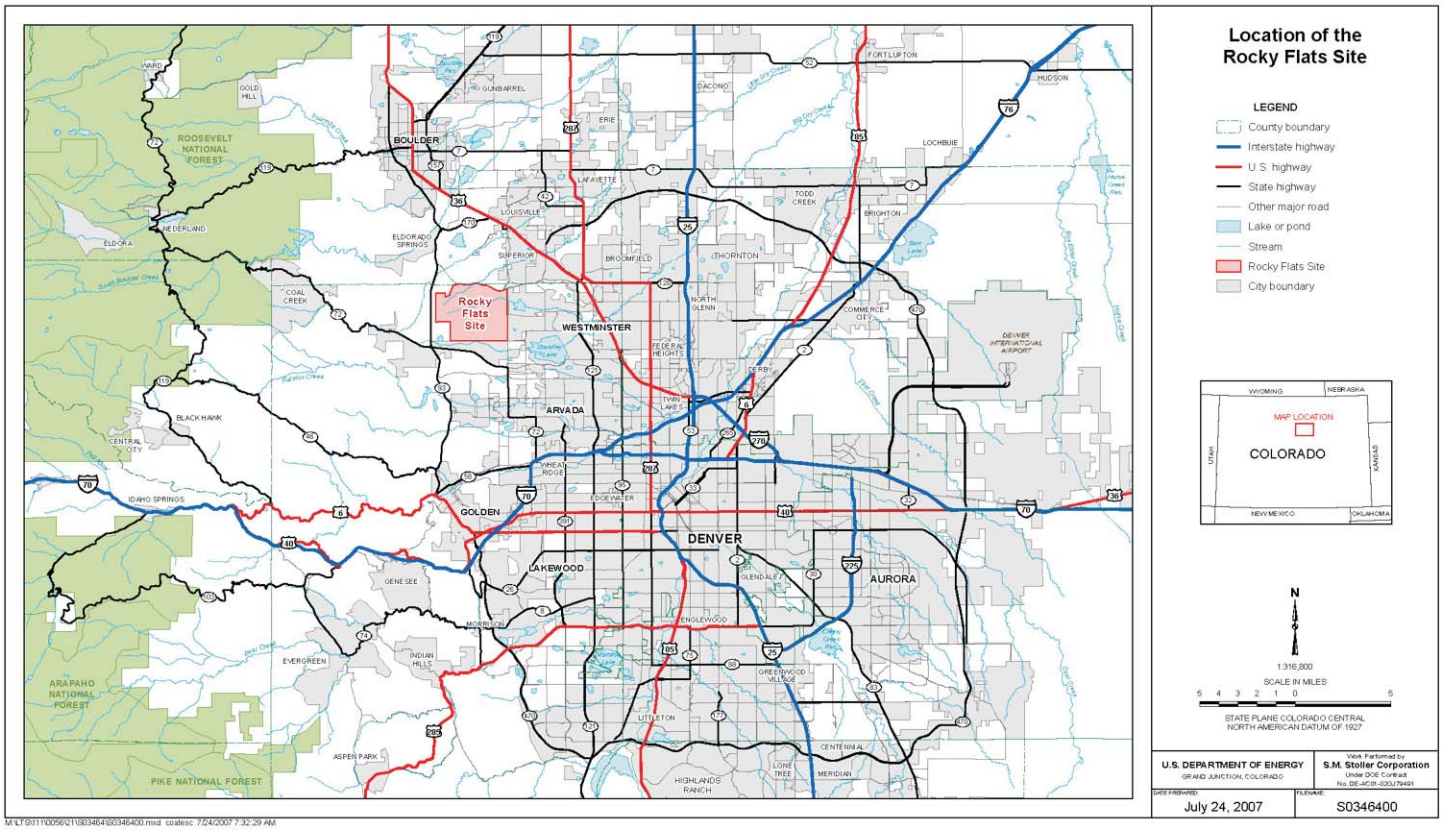
Location of the Rocky Flats Site

From 1952 to 1994, the plant's primary mission was the production of nuclear and nonnuclear weapons components for the nation's nuclear arsenal. The key component produced at Rocky Flats was the plutonium pit, commonly referred to as the “trigger” for nuclear weapons. The majority of the triggers in the nation's nuclear weapons stockpile were manufactured

Rocky Flats Site in July 1995 Prior to Final Cleanup



Rocky Flats Site in June 2007 Two Years After Cleanup



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at Rocky Flats. Information on specific weapons containing Rocky Flats–built nuclear triggers remains classified. However, it is known that triggers built at Rocky Flats were used in multiple weapon types, and components were formed from beryllium, plutonium, stainless steel, uranium, and other materials. The Rocky Flats Plant also processed plutonium for reuse and manufactured defense-related components from depleted uranium.

The site was divided into three geographic areas, each fenced and protected by security forces. The industrial area, consisting of 384 acres, was located in the center of the site. There were more than 800 structures in the industrial area that included approximately 150 permanent buildings and 90 trailers, plus temporary structures, sheds, tanks, and annexes to larger buildings. The protected area was located within the northern portion of the industrial area and contained a complex of plutonium production facilities. This area was heavily fenced and guarded. The buffer zone surrounded the industrial area and protected the site from potential encroachment.

In June 1989, Rocky Flats was raided by agents of the Federal Bureau of Investigation and the U.S. Environmental Protection Agency (EPA) because of alleged environmental crimes. In December of that year, nuclear production work was halted to address environmental and safety concerns. In 1990, the site began working toward resumption of operations in the plutonium buildings. With the President's 1992 cancellation of the W-88 Trident Warhead Program, the Rocky Flats production mission was terminated. In 1993, the Secretary of Energy formally announced the end of nuclear production at Rocky Flats. And, in 1994, nonnuclear production also came to a close at Rocky Flats as the last defense-related shipment was sent out.

When production of nuclear weapons components ended at Rocky Flats, its mission changed to cleanup and closure, and the name was changed to the Rocky Flats Environmental Technology Site. As a result of operational problems during the plant's history, its abrupt shutdown in 1989 for environmental and safety concerns, and standard practices used at the time, facilities contained substantial plutonium, beryllium, and other hazardous substance contamination. Plutonium liquids were left in process piping and in tanks in unknown quantities and chemical configurations, and classified materials were left where they were being used or processed. DOE was faced with one of the most significant and challenging environmental cleanups in the history of the United States. Closure seemed a distant dream in early 1995, when DOE estimated the cleanup of Rocky Flats would take approximately 65 years and cost over $37 billion.

In October 2005, DOE and its contractor completed an accelerated 10-year, $7 billion cleanup of chemical and radiological contamination left from nearly 50 years of

production. The cleanup required the decommissioning, decontamination, demolition, and removal of more than 800 structures, including six plutonium processing and fabrication building complexes; removal of more than 500,000 cubic meters of low-level radioactive waste; and remediation of more than 360 potentially contaminated environmental sites.

Regulatory Setting

Because environmental investigations indicated that operations at Rocky Flats resulted in the release of materials defined as hazardous substances, contaminants, and pollutants by the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), as well as hazardous wastes and waste constituents as defined by the Resource Conservation and Recovery Act (RCRA) and the Colorado Hazardous Waste Act (CHWA), Rocky Flats was listed on EPA's National Priorities List (NPL) in 1989.

Under CERCLA, responsibility for the response action for hazardous substance releases at Rocky Flats is delegated to DOE as the lead agency in accordance with Executive Order 12580. EPA and the Colorado Department of Public Health and Environment (CDPHE) are the support agencies. Under RCRA and CHWA, DOE is responsible for corrective action for releases of hazardous waste and hazardous waste constituents at Rocky Flats. In Colorado, RCRA/CHWA corrective action is regulated by CDPHE.

Investigation and cleanup activities were formally covered under three successive federal facility agreements and compliance orders, beginning in 1986 and culminating with the Rocky Flats Cleanup Agreement (RFCA), signed by DOE, EPA, and CDPHE in July 1996. Cleanup, closure, and selection of the final remedy were accomplished in accordance with RFCA.

Following completion of the cleanup, Rocky Flats was designated as two operable units (OUs) within the boundaries of the property: the 1,308-acre Central OU and the 4,883-acre Peripheral OU. The Central OU consolidates all areas of Rocky Flats that required additional remedial/response actions, while also considering practicalities of future land management. The Peripheral OU includes the remaining, generally unaffected portions of Rocky Flats and surrounds the Central OU. The Offsite Areas at Rocky Flats, known as OU 3, were addressed under a separate no action Corrective Action Decision/Record of Decision (CAD/ROD) dated June 3, 1997.

The final remedy was selected in the September 29, 2006, CAD/ROD after completion of cleanup and closure by DOE under RFCA. The CAD/ROD was based on the results of the July 2006 Remedial Investigation/Feasibility Study, Comprehensive (Human Health and Ecological) Risk Assessment (CRA), and Proposed Plan.

The response action in the final CAD/ROD is no action for the Peripheral OU and institutional controls and physical controls with continued monitoring for the Central OU.

The majority of the property at the site (the Peripheral OU), which served as a security buffer zone during production, was transferred to the U.S. Department of Interior for management by the U.S. Fish and Wildlife Service as the Rocky Flats National Wildlife Refuge in July 2007.

The primary contaminants, contaminated media, and waste present in the Central OU are:

- Wastes disposed of in the Present Landfill (PLF), which include asbestos and hazardous waste constituents, and the Original Landfill (OLF), which include trash and construction debris and some depleted uranium contamination. The landfills are closed with engineered covers, precipitation run-on and runoff controls, and ground water monitoring wells.
- Seep water at the PLF containing volatile organic compounds (VOCs). A passive seep treatment system uses aeration to treat the collected seep water.
- Subsurface soils with VOCs, metals, and radionuclide contamination; and areas where former building and infrastructure components, debris, and incinerator ash remain, with low levels of uranium, plutonium, and americium contamination.
- Surface soil contaminated with low levels of plutonium-239/240 and americium-241 that could affect surface water quality if contaminated soils were disturbed to the extent that erosion could mobilize the contaminants.
- Subsurface soil contaminated with nitrates, uranium, and VOCs that contribute contaminants to ground water, which may affect surface water quality.
- Some subsurface areas with VOCs contamination at levels that preclude occupied buildings in the area because volatilization could lead to unacceptable VOC levels in the buildings.
- Areas of ground water contaminant plumes that contain nitrates, uranium, and VOCs at levels above surface water standards and in some cases above maximum contaminant levels for drinking water, which may affect surface water quality. Three passive ground water collection and treatment systems remove these constituents to reduce ground water contaminant loading to surface water.

The remedy institutional controls prohibit soil disturbance activities that are not appropriately controlled, activities that could damage the landfill covers or other remedy components, and the

non-remedy-related use of surface water or ground water. The physical controls include signage at access points to the Central OU listing the institutional controls and around the Central OU perimeter prohibiting access. Monitoring includes requirements to routinely inspect and maintain the landfill covers, treatment systems, and institutional controls; and sampling and analysis of ground water and surface water at specified locations and frequencies.

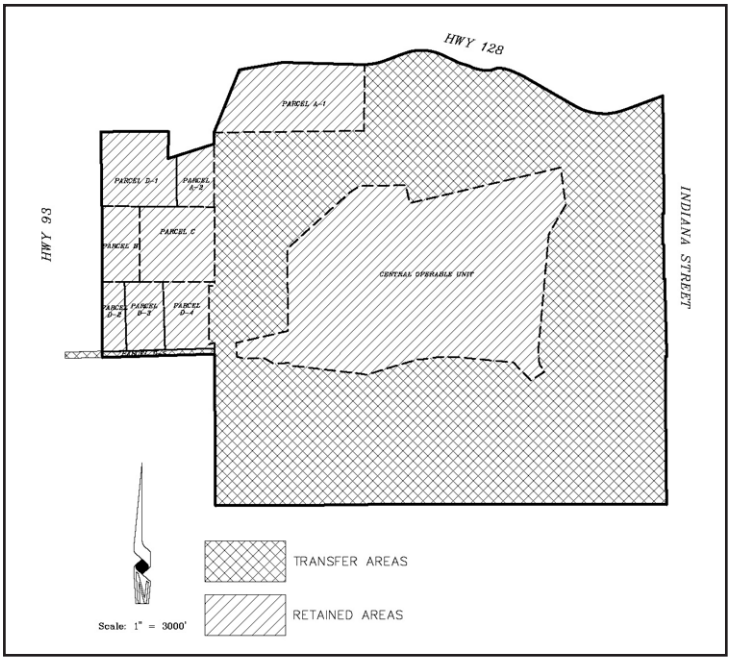
Because remaining contamination in the Central OU does not allow for unlimited use and unrestricted exposure, periodic reviews are required by CERCLA to be conducted at least every 5 years to determine whether the Central OU remedial actions remain protective of human health and the environment.

On March 14, 2007, DOE, EPA, and CDPHE entered into the Rocky Flats Legacy Management Agreement (RFLMA). RFLMA establishes the regulatory framework for implementing the final remedy for Rocky Flats and ensuring that it remains protective of human health and the environment. RFLMA modifies and supersedes RFCA.

Legacy Management Activities

With the signing of the CAD/ROD, the DOE Office of Legacy Management (LM) assumed responsibility for long-term surveillance and maintenance for the Rocky Flats Site, which consists of approximately 1,300 acres (Central OU) of the original 6,200-acre site. LM is also responsible for approximately 950 acres of former buffer land that is associated with private mineral rights and will be transferred to the refuge as mining permits expire and reclamation required by Colorado law is completed.

LM is responsible for the long-term care of legacy liabilities at former nuclear weapons production sites following completion of cleanup. At Rocky Flats, LM is responsible for the management of land retained by DOE and for compliance with the long-term requirements outlined in RFLMA. Legacy management refers to all activities necessary to ensure protection of human health and the environment following completion of cleanup, disposal, or stabilization at a site or portion of a site and in perpetuity. These activities include maintaining all engineered and institutional controls designed to contain or prevent exposure to residual contamination and waste, record-keeping activities, inspections to evaluate the condition of surface features, ground water and surface water monitoring, maintenance of other barriers and contained structures, access control, emergency response, and posting signs. Monitoring and maintenance responsibilities at Rocky Flats include 2 closed landfills, 4 passive ground water treatment systems, more than 120 water monitoring locations and stations, 12 surface water retention ponds, erosion control, and revegetation.



Refuge Land Transfer and DOE Retained Areas

Contacts

Documents related to the Rocky Flats Site are available on the DOE Office of Legacy Management website at http://www.LM.doe.gov/land/sites/co/rocky_flats/rocky.htm.

For more information about DOE Office of Legacy Management activities at the Rocky Flats Site, contact

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